This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Original) A method for managing requests to an Input/Output (I/O) device, comprising:

queuing I/O requests directed to the I/O device;

determining whether a number of queued I/O requests exceeds a threshold;

if the number of queued I/O requests exceeds the threshold, then calculating a coalesce limit;

coalescing a number of queued I/O requests not exceeding the calculated coalesce limit into a coalesced I/O request; and

transmitting the coalesced I/O request.

2. (Original) The method of claim 1, wherein the calculated coalesce limit dynamically varies based in part on the number of queued I/O requests.

3. (Original) The method of claim 2, wherein calculating the coalesce limit includes dividing the number of queued I/O requests by an interval.

4. (Original) The method of claim 1, wherein coalescing the queued I/O requests comprises:

determining a maximum number of queued I/O requests up to the coalesce limit that are directed to data stored at sequential locations, wherein the determined I/O requests are coalesced into the coalesced I/O request, and wherein all the coalesced I/O requests are directed to data stored at sequential locations.

5. (Original) The method of claim 1, wherein I/O requests are queued in a first queue or a second queue, wherein determining whether the number of queued I/O requests exceeds the threshold comprises determining whether a number of I/O requests in the second

queue exceeds the threshold, and wherein coalescing the number of queued I/O requests comprises coalescing I/O requests from the first queue.\

6. (Original) The method of claim 5, further comprising:

adding the transmitted coalesced I/O request to the second queue.

7. (Original) The method of claim 5, wherein the first queue is maintained by a device driver in a computer memory and the second queue is implemented in a controller of the I/O device.

8. (Original) The method of claim 7, wherein the controller comprises a storage controller and the I/O device comprises a storage device.

9. (Original) The method of claim 5, further comprising:

determining whether there are at least two I/O requests in the first queue after determining that the number of requests in the second queue exceeds the first queue, wherein I/O requests from the first queue are only coalesced if there are at least two I/O requests in the first queue.

10. (Original) The method of claim 1, further comprising:

transmitting one I/O request from the queue if the number of queued I/O requests does not exceed the threshold.

11. (Original) A system for managing requests to a storage device, wherein a storage controller manages access to the storage device, comprising:

a processor;

a memory device accessible to the processor; and

a device driver executed by the processor, wherein the device driver when executed causes operations to be performed, the operations comprising:

(i) queue I/O requests directed to the storage device in the memory device;

(ii) determine whether a number of queued I/O requests exceeds a threshold;

(iii) if the number of queued I/O requests exceeds the threshold, then calculating a coalesce limit;

(iv) coalescing a number of queued I/O requests not exceeding the calculated coalesce limit into a coalesced I/O request; and

(v) transmitting the coalesced I/O request.

12. (Original) The system of claim 11, wherein the calculated coalesce limit dynamically varies based in part on the number of queued I/O requests.

13. (Original) The system of claim 12, wherein calculating the coalesce limit includes dividing the number of queued I/O requests by an interval.

14. (Original) The system of claim 11, wherein coalescing the queued I/O requests comprises:

determining a maximum number of queued I/O requests up to the coalesce limit that are directed to data stored at sequential locations, wherein the determined I/O requests are coalesced into the coalesced I/O request, and wherein all the coalesced I/O requests are directed to data stored at sequential locations.

15. (Original) The system of claim 11, further comprising:

a first queue in the memory device, wherein the storage controller includes a second queue, wherein determining whether the number of queued I/O requests exceeds the threshold comprises determining whether a number of I/O requests in the second queue exceeds the threshold, and wherein coalescing the number of queued I/O requests comprises coalescing I/O requests from the first queue.

16. (Original) The system of claim 15, wherein the operations performed when executing the device driver further comprise:

determine whether there are at least two I/O requests in the first queue after determining that the number of requests in the second queue exceeds the first queue, wherein I/O requests from the first queue are only coalesced if there are at least two I/O requests in the first queue.

17. (Original) The system of claim 11, wherein the operations performed when executing the device driver further comprise:

transmit one I/O request from the queue if the number of queued I/O requests does not exceed the threshold.

18. (Currently Amended) An article of manufacture comprising a device implementing code for managing requests to an Input/Output (I/O) device, wherein the ~~article of manufacture~~ code causes operations to be performed, the operations comprising:

queuing I/O requests directed to the I/O device;

determining whether a number of queued I/O requests exceeds a threshold;

if the number of queued I/O requests exceeds the threshold, then calculating a coalesce limit;

coalescing a number of queued I/O requests not exceeding the calculated coalesce limit into a coalesced I/O request; and

transmitting the coalesced I/O request.

19. (Original) The article of manufacture of claim 18, wherein the calculated coalesce limit dynamically varies based in part on the number of queued I/O requests.

20. (Original) The article of manufacture of claim 19, wherein calculating the coalesce limit includes dividing the number of queued I/O requests by an interval.

21. (Original) The article of manufacture of claim 18, wherein coalescing the queued I/O requests comprises:

determining a maximum number of queued I/O requests up to the coalesce limit that are directed to data stored at sequential locations, wherein the determined I/O requests are coalesced into the coalesced I/O request, and wherein all the coalesced I/O requests are directed to data stored at sequential locations.

22. (Original) The article of manufacture of claim 18, wherein I/O requests are queued in a first queue or a second queue, wherein determining whether the number of queued

I/O requests exceeds the threshold comprises determining whether a number of I/O requests in the second queue exceeds the threshold, and wherein coalescing the number of queued I/O requests comprises coalescing I/O requests from the first queue.

23. (Original) The article of manufacture of claim 22, wherein the operations further comprise:

adding the transmitted coalesced I/O request to the second queue.

24. (Original) The article of manufacture of claim 22, wherein the first queue is maintained by a device driver in a computer memory and the second queue is implemented in a controller of the I/O device.

25. (Original) The article of manufacture of claim 24, wherein the controller comprises a storage controller and the I/O device comprises a storage device.

26. (Original) The article of manufacture of claim 22, wherein the operations further comprise:

determining whether there are at least two I/O requests in the first queue after determining that the number of I/O requests in the second queue exceeds the first queue, wherein I/O requests from the first queue are only coalesced if there are at least two I/O requests in the first queue.

27. (Original) The article of manufacture of claim 18, wherein the operations further comprise:

transmitting one I/O request from the queue if the number of queued I/O requests does not exceed the threshold.

28. (New) The article of manufacture of claim 18, wherein the device comprises a computer readable medium or a hardware component.